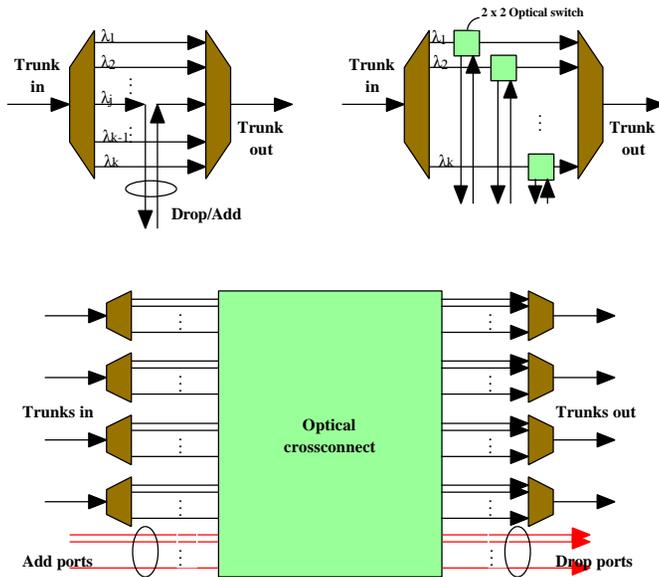


DWDM Network Metrology



Goal

To accelerate the development of multi-vendor interoperable metropolitan/local access DWDM (Dense Wavelength Division Multiplexing) networks.

Technical Objectives

- Develop methods to characterize very Dense WDM networks with narrow spacing (1GHz) at the optical level.
- Characterize the effect of optical signal parameters (e.g., s/n ratio, wavelength stability) on network behavior.
- Identify and demonstrate means of realizing reconfigurable/tunable multiplexers and routers and impact of network performance.
- Assess the performance of alternative proposals for service adaptation including IP over WDM.

Expected Impact

- Assist standards groups in development of standards and help industry to develop interoperable products.

Potential Customers and Collaborators

Customers

- Standard organizations: ANSI T1, ITU-T, Optical Internetworking Forum, IETF
- Bell Atlantic and other carriers
- Equipment vendors

Collaborators

- DARPA NGI/ONRAMP, MONET teams, Bellcore
- High Performance Systems and Services Division, ITR/NIST
- Physics Laboratory, NIST

Planned Accomplishments (FY 99-00)

- Establish a basic WDM testbed. (FY 99)
- Install monitoring, test and measurement facilities. (FY 99)
- Publish results of study on optical signal parameters. (FY 99)
- Publish result of reconfiguration/protection studies. (FY 00)
- Develop facilities to study issues in transporting IP directly over WDM. (FY 00)
- Conduct performance evaluation of IP over WDM. (FY 00)